reid™

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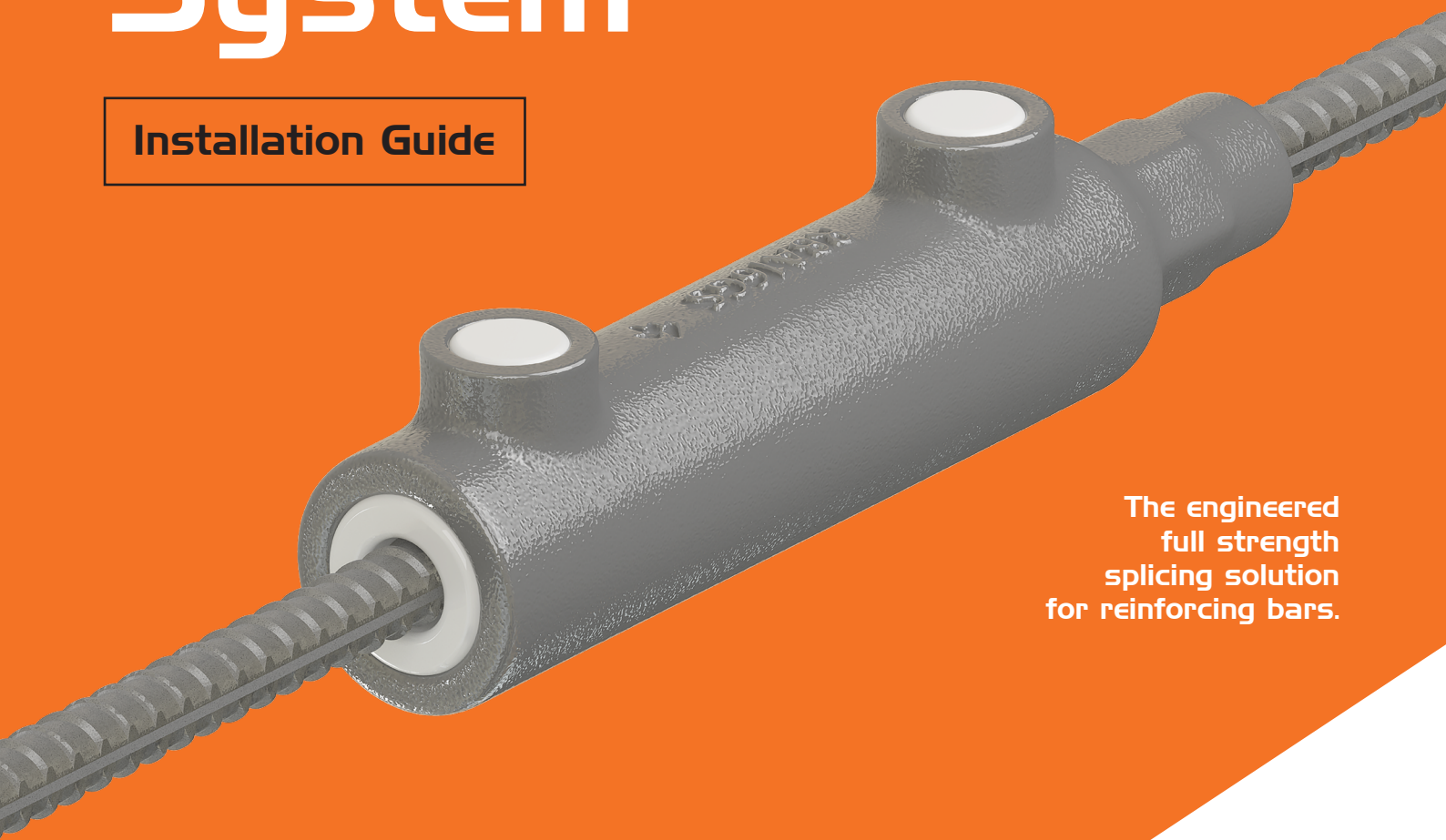
March | 2024 NZ

GENUINE

ReidBar™ Grout Sleeve System

Installation Guide



The engineered full strength splicing solution for reinforcing bars.

CodeMark CMNZ10024

BRANZ Appraised Appraisal No. 1084

reids.co.nz | 0800 88 22 12

ReidBar™ Grout Sleeve System

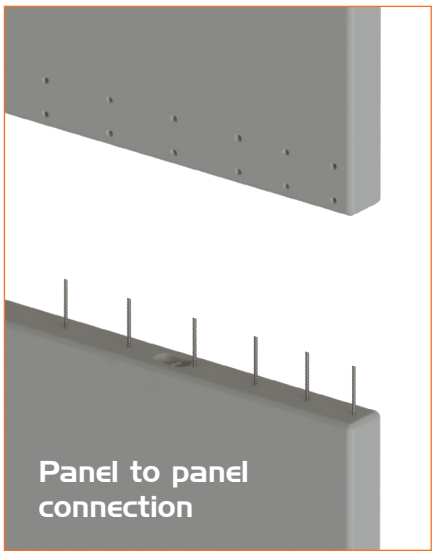
The ReidBar Grout Sleeve System provides a full strength splicing solution for reinforcing bars, allowing reinforcing continuity between load-bearing precast concrete elements.

Ideal for panel to panel and panel to slab/foundation connections, the ReidBar Grout Sleeve system is designed so that when loaded to failure in tension, it exhibits ductile failure of the ReidBar, clear of the connection. This provides designers with the confidence to base structural design on the ReidBar as the limiting design factor. The result: Ease of design.

The ReidBar Grout Sleeve system comprises of specialised components, engineered to perform as a system and validated as a system, nothing is left to chance. Performance claims are backed with physical testing of the full system performed by independent IANZ accredited labs. The system is engineered for the task, and unlike drossbach ducts, require no modification, reducing production and installation costs, and eliminating error. The system is supported by technical assistance at every stage, face-face-training, procedures, checklists and inspection processes that take the guesswork out of construction.

Being independently certified, the ReidBar Grout Sleeve system enable designers to create efficient construction joints between precast concrete elements with confidence.

ReidBar™ Grout Sleeve System Applications



CodeMark
CMNZ10024

The ReidBar™ Grout Sleeve system holds a CodeMark certificate (Certificate Number CMNZ10024). This provides a deemed to comply assessment for the system, to the NZBC, when used within the scope of CodeMark Certificate Number CMNZ10024.

BRANZ Appraised
Appraisal No. 1084

The ReidBar™ Grout Sleeve system holds a BRANZ Appraisal (Appraisal No. 1084). This Appraisal provides confidence the product has been subject to in-depth & rigorous examination by an independant trusted organisation to indicate evidence of meeting Building Code Performance.

Features & Benefits

Meets the specification.

Tested to meet the clauses of the New Zealand Building Code (as stated on CodeMark Certificate Number CMNZ10024).

Supports quality workmanship

Engineered for the task and fully supported with face-to-face training, procedures and checklists that take the guesswork out of construction.

Keeps the team safe

through reducing on-site hazards caused by long protruding starter bars, allowing shorter embedment depths.

Technical support at every stage.

Reid™ products are backed with technical support from design to construction.

Saves on project costs

By utilising less materials and less labour time on site compared to drossbach duct installation when used as a continuous reinforcing system. System inherently saves on grout volume, assembly & grouting labour.

Simplifies panel transport & storage

by significantly reducing starter bar lengths.

Products that won't let you down.

ReidBar™ system components are quality assured and won't let you down when you're on site and timeframes are tight.

BRANZ Appraised
Appraisal No. 1084

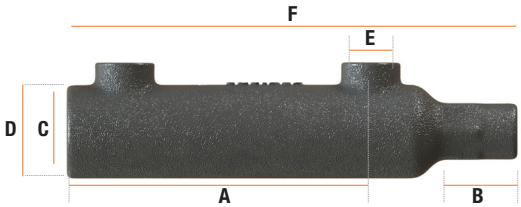
CodeMark
CMNZ10024

System Components

The ReidBar™ Grout Sleeve system is comprised of specialised components, engineered to perform as a system, validated as a system and independently certified as a system. Nothing is left to chance.

ReidBar™ Grout Sleeves

The ReidBar™ Grout Sleeve offers a mechanical/splice connection for concrete precast panels which has been independently tested to meet the performance requirements stipulated in NZS 3101:2006 Amendment 3.

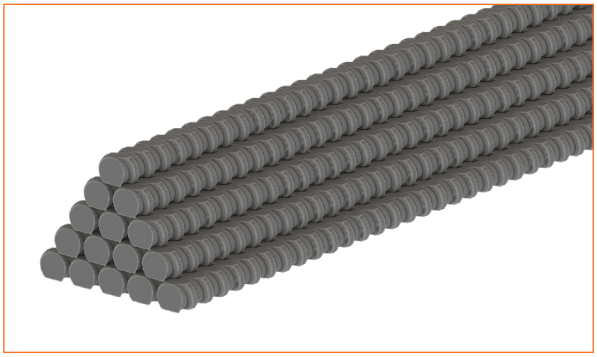


Part No.	Suits ReidBar	Embedment Depth (mm) (A)	Bar Thread Depth (mm) (B)	Grout Sleeve I.D (mm) (C)	Grout Sleeve O.D (mm) (D)	Grout Port Dia. (mm) (E)	Overall Length (mm) (F)	Nom Grout Vol (ml)
RB12GS	RB12	130 ± 20	42	28-40	46-58	21	200	200
RBA16GS	RB16	170 ± 20	44.5	32	50	21	240	200
RB20GS	RB20	204 ± 20	60	40	60	21	290	350
RB25GS	RB25	254 ± 20	80	48	70	21	360	550
RB32GS	RB32	300 ± 20	109	55	75	26	445	800

ReidBar™

The ReidBar™ Structural Reinforcing System has been developed to provide full strength and positive connections between precast concrete panels, floor slabs and insitu suspended floors.

ReidBar™ is a 500E grade continuous threaded reinforcing bar complying with AS/NZS 4671:2019. ReidBar can be cut at any point along its length & screwed into Genuine ReidBar threaded components, enabling fast, easy & efficient reinforcement in any concrete structure.



- **Available in 12mm, 16mm, 20mm, 25mm & 32mm Bar Diameters.**
- **Reduced formwork damage.**
- **Reduced H&S risk.**
- **Increased productivity.**
- **Meets the requirements of 'Steel Reinforcing Materials, AS/NZS 4671:2019'.**

Please Note: Non proprietary Grade 500E Deformed (HD) Reinforcing Bar compliant with AS/NZS 4671:2019 can also be used in place of threaded ReidBar reinforcement **within the grouted end of the grout sleeve** connection system, providing bar dia. & min. bar embedment depths are maintained.

Refer to the Reid Precast Solutions Product Guide for related products. Available from www.reids.co.nz

System Components

Ramset™ Epcon™ C8 XTREM™

Part No.	Description	Pack Qty
C8-450	Epcon™ C8 Xtrem™ 450ml	12

Cementitious Grout

Ramset POZIFLO Grout HS is a dual expansion, high strength precision cementitious grout with high early strength and high flow properties.

Brand	Product	Description	Pack Size
Ramset	PoziFLO HS	POZIFLO Grout HS	20kg Bag

Fosroc Conbextra HS is a dual shrinkage compensated, high flow cementitious grout used grouting applications where rapid strength gain and high ultimate strength is a pre-requisite.

Brand	Product	Description	Pack Size
Fosroc	Combextra HS	Fosroc Grout Combextra HS (High Strength)	20kg Bag

SikaGrout-212 HP is a cementitious, non-shrink, high performance grout that expands in two stages in both the plastic and hardened states (class A and C) to counteract shrinkage. Achieves high Early Strength & High 28-day strengths.

Brand	Product	Description	Pack Size
Sika	Sika 212 HP	Sika Grout 212 HP – High Performance	25kg Bag

Supplementary Products to aid in Install process

Polyethylene Closed Cell Foam Backer Rod:
Available in various sizes.

PVC Tubing, Plumbing Hose etc:
Used as a port tubes for grout installation (Grout Port Hole Dia's 21 & 26mm)

Grout	Pack Size	Water Addition Requirements **
Ramset POZIFLO Grout HS	20Kg (Bag)	3.2-3.5L
Fosroc Conbextra HS	20Kg (Bag)	2.7-2.9L
Sika SikaGrout 212 HP	25Kg (Bag)	3.8-4.0L *

* Water content exceeds manufacturers specifications (3.5L). Water Quantity set to achieve flowable consistency required for installation.

** For System Validation Testing, the maximum water content specified below has been utilised.

Compliance Details

Product applicability

The products applicable to the compliance statement are defined in Table 1.

Table I: Product applicability

System	ReidBar™ Grout Sleeve System				
System Components	ReidBar™ Grout Sleeve	ReidBar™	Optional Reinforcing bar for grouted end of system	EPCON™ C8 XTREM™	Selectable Grout Options
Image					Ramset POZIFLO Grout HS  Fosroc Conbextra HS  SikaGrout-212 HP 
Part Numbers	RB12GS RBA16GS RB20GS RB25GS RB32GS	RB12 RB16 RB20 RB25 RB32	HD12 HD16 HD20 HD25 HD32	C8-450	Ramset POZIFLO HS - (RPGHS) Supplied by Reid Construction Systems Fosroc Combextra HS, Sika 212 HP Supplied by Others

Compliance Details

Compliance statement

The system defined in Table 1 complies with the New Zealand Building Code clauses identified in Table 2.

Table 2: Compliance details: New Zealand Building Code (NZBC)

NZBC Clause	Criteria	Compliance Status
B1.3.1	'Buildings, building elements and sitework shall have a low probability of rupturing, becoming unstable, losing equilibrium, or collapsing during construction or alteration and throughout their lives.'	Compliant – refer to CodeMark certificate of Conformity*
B1.3.2	'Buildings, building elements and sitework shall have a low probability of causing loss of amenity through undue deformation, vibratory response, degradation, or other physical characteristics throughout their lives, or during construction or alteration when the building is in use.'	
B1.3.3 (a), (b), (d), (e), (f), (g), (h), (j), (q)	'Account shall be taken of all physical conditions likely to affect the stability of buildings, building elements and sitework, including: (a) Self weight, (b) Imposed gravity loads arising from use . . . (d) Earth pressure, (e) Water and other liquids, (f) Earthquake, (g) Snow, (h) Wind . . . (j) Impact . . . (q) Time dependent effects including creep and shrinkage.	
B1.3.4	'Due allowance shall be made for: (a) The consequences of failure, (b) The intended use of the building, (c) Effects of uncertainties resulting from construction activities, or the sequence in which construction activities occur, (d) Variation in the properties of materials and the characteristics of the site, and (e) Accuracy limitations inherent in the methods used to predict the stability of buildings.'	
B2.3.1 (a)	'Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or: (a) The life of the building, being not less than 50 years, if (i) Those building elements . . . Provide structural stability to the building, or (ii) Those building elements are difficult to access or replace, or (iii) Failure of those building elements to comply with the building code would go undetected during both normal use and maintenance of the building.'	
B2.3.2	B2.3.2 Individual building elements which are components of a building system and are difficult to access or replace must either: (a) All have the same durability, or (b) Be installed in a manner that permits the replacement of building elements of lesser durability without removing building elements that have greater durability and are not specifically designed for removal and replacement.	
F2.3.1	'The quantities of gas, liquid, radiation or solid particles emitted by materials used in the construction of buildings, shall not give rise to harmful concentrations at the surface of the material where the material is exposed, or in the atmosphere of any space.'	

CodeMark CMNZ10024

*The ReidBar Grout Sleeve system is included within CodeMark certificate (Certificate Number CMNZ10024). This provides a deemed to comply assessment for the system, to the NZBC, when used within the scope CodeMark (Certificate Number CMNZ10024). The ReidBar Grout Sleeve system CodeMark certificate is available on the BRANZ website, located by entering the certificate number.
https://www.branz.co.nz/appraisal-codemark-certificates/reidbar-reinforcing-bar-connection-system

General Requirements

Please read the contents of this publication in its entirety before commencing your project.

Reid™ Construction Systems can provide technical assistance and training. Contact Reid™ using the details provided at the end of this publication.

System Requirements

The ReidBar™ Grout Sleeves system is an engineered system comprising of ReidBar™ Grout Sleeves, Ramset™ Epcon™ C8, Selectable High Performance Grouts (Refer to Page 5) and coarse threaded Genuine ReidBar™.

Substitution, omission and/or modification of components is not permitted by Reid Construction Systems™ and will void the CodeMark certification of the system.

Substitution, omission and/or modification of components will affect the performance of the system and thus the structural performance of the building.

Deviation from the technical literature, (including but not limited to prescribed installation methods, operating conditions, measures, shelf life, storage and safety precautions) will affect the performance of the system, the structural performance of the building and/or the safety of workers.

Products shall only be used in applications described in Reid™ Construction Systems publications.

Manufacture, installation and grouting competence

The professional manufacture, installation and grouting of precast panels is integral to the structural performance of the building.

Precast panel manufacture, installation and grouting shall only be performed by competent workers.

For advice and training on the products referred to in this publication, please contact Reid™ using the details provided at the end of this publication.

Workplace Health and Safety

The Precast industry has been identified as high risk construction work by government authorities. Ensure your team is familiar with current legislation and compliance codes for your jurisdiction.

Whilst on site:

- Observe the workplace health and safety procedures of the site.
- Ensure that workers are not exposed to workplace health and safety risks whilst accessing the work area and conducting the work, through the provision of adequate training, procedures and PPE to perform the work safely in accordance with WHS advice for your jurisdiction.
- Allocate workers to the job who are adequately trained to carry out the task safely.

Scope

The scope of this publication is limited to the following processes specifically in relation to the correct application of the ReidBar Grout Sleeve system, namely:

- **Grout sleeve assembly**
- **Grout sleeve installation**
- **On-site installation** (excluding cranage and propping procedures)

Reference Material

Please refer to the following supporting literature available from www.reids.co.nz.

- **ReidBar™ Grout Sleeve System Specification guide**
- **Ramset™ Epcon™ C8 Xtrem™ TDS & MSDS**
- **Ramset™ POZIFLO™ Grout HS TDS & MSDS**
- **Reid™ Precast Solutions Product Guide**

Reid Construction Systems™ reserves the right to amend this and referenced documentation from time to time.

Sika & Fosroc structural grout technical information to be sourced from supplier.

Please ensure current literature is being referred to by accessing the website.

Panel Manufacturing Preparation

During the panel design process:

- [ ] Work with the structural engineer to refine the panel design and installation method
- [ ] If the intended panel design or components deviate from the structural engineering specification, then approval shall be sought from the structural engineer.
- [ ] Allocate workers to the job who are deemed competent to carry out the task safely, to the structural engineering specifications.

Preparing for panel manufacture:

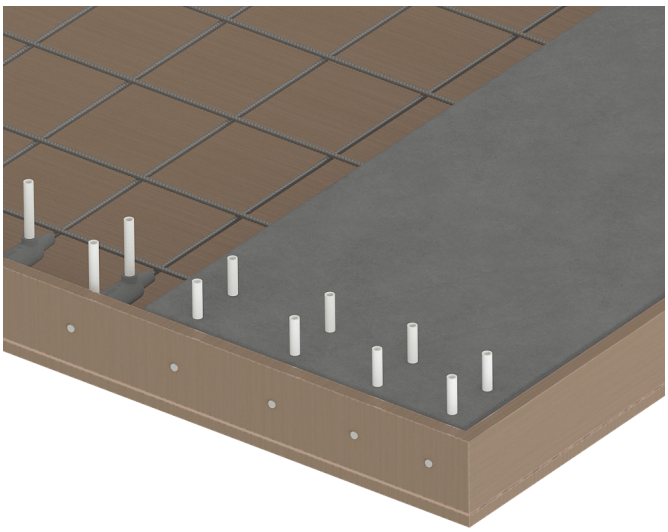
- [ ] Ensure workers are given the required tools, equipment and materials to carry out the work efficiently and accurately to the structural engineering specifications.
- [ ] Ensure tools and equipment are in correct working order.
- [ ] Ensure materials are to the correct specifications and are within their use by date (where applicable).
- [ ] Ensure workers are familiar with the requirements of the job and are provided with necessary documentation to do the job accurately to the structural engineering specifications.

Whilst manufacturing the panels:

- [ ] Ensure workers are given access to the required tools, equipment and materials to carry out the work efficiently and accurately to the structural engineering specifications.
- [ ] Ensure workers do not deviate from the structural engineering specifications. If manufacturing constraints force a deviation, stop and seek approval from the structural engineer before proceeding.
- [ ] Ensure panel fabrication team complete checklist located on Page 21 & 22 of this document.

Tools and equipment:

- [ ] Appropriate Safety Equipment (PPE)
- [ ] Checklists (see end of this publication)
- [ ] Genuine ReidBar™
- [ ] ReidBar™ Grout Sleeves
- [ ] Ramset™ Epcon™ C8 XTREM™
- [ ] Relevant technical datasheets, manuals and MSDS.



Assembly Procedure

ReidBar™ Bar to Grout Sleeve Epoxy Application

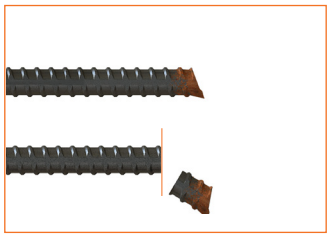
Please note:

- This process is to be completed outside of the casting bed to ensure no Epcon™ C8 XTREM™ drips into the bed during assembly.
- Ensure the following process is completed 24 hours prior to the pour to allow for curing time.
- Ensure the following process is not conducted at temperatures below 5°C.

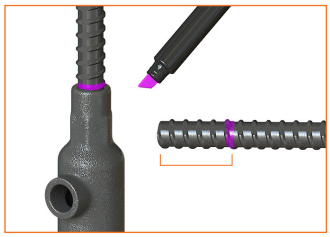
Reid™ Product and Tools Required:

• Genuine ReidBar™ Bar • ReidBar™ Grout Sleeve • Friction Cutting Tool • Marking Pen • Epoxy, Nozzle & Applicator • Spanner / Wrench

Step 1: ReidBar™ Bar Preparation & Grout Sleeve Thread Depth



1.a: Ensure end of bar is 'Friction Cut' square, prior to insertion into threaded end of Grout Sleeve'



1.b: Mark ReidBar™ Grout Sleeve Internal Thread Depth on ReidBar™ Bar.

Grout Sleeve	Suits ReidBar	Thread Depth
RB12GS	RB12	42mm
RBA16GS	RB16	44.5mm
RB20GS	RB20	60mm
RB25GS	RB25	80mm
RB32GS	RB32	109mm

Step 2:
Epcon™ C8 XTREM™ Epoxy Application & Connecting Grout Sleeve to ReidBar™ Bar

Grout Sleeve Filler Requirements (Epcon™ C8 XTREM™ Epoxy) Per Connection				
RB12GS x3 pumps	RBA16GS x4 pumps	RB20GS x4 pumps	RB25GS x6 pumps	RB32GS x8 pumps

2.a: Dispense initial mix of epoxy from nozzle until a consistent grey coloured mix appears. Discard safely

2.b: Dispense half of recommended quantity of epoxy (refer table above) onto the marked end of ReidBar.

2.c: Dispense remaining half of recommended Epoxy (refer to table above) into threaded end of Grout Sleeve. Ensure even distribution through internal threads.

2.d: Thread Reidbar™ Bar Into Grout Sleeve. Tighten With Spanner To Insure A Snug Fit.

Allow the Final assembly to cure for 24 hours before proceeding with placement.

Installation Procedure

Installing ReidBar™ Grout Sleeve

STEP 1 Create templates

A template is the most accurate way to ensure that ReidBar™ Grout Sleeves and their starter bars are located at the correct positions for repetitive casting. Templates can be easily fabricated using steel or timber. Timber templates tend to be more popular amongst precast concrete manufacturers given that most already have fully operational timber workshops.

Measure and mark on the template the centre locations of the ReidBar™ Grout Sleeves and their starter bars. For the starter bar template (and if timber is used), drill holes of sufficient diameter to pass the bars. When the construction of the concrete elements involve two or more parties, copies of the templates shall be provided to these parties so that all parties are working of the same measurement benchmark.

Step 1 Checklist:

- ☐ Create templates as required and check if the marked & drilled hole locations of the ReidBar™ Grout Sleeves and their continuation bars are accurate.
- ☐ Mark orientation points on the template to enable future cross reference between finished concrete panel & on-site install location (starter bars). (e.g. Front/back & left/right)
- ☐ Duplicate these templates and provide them to other parties as required.

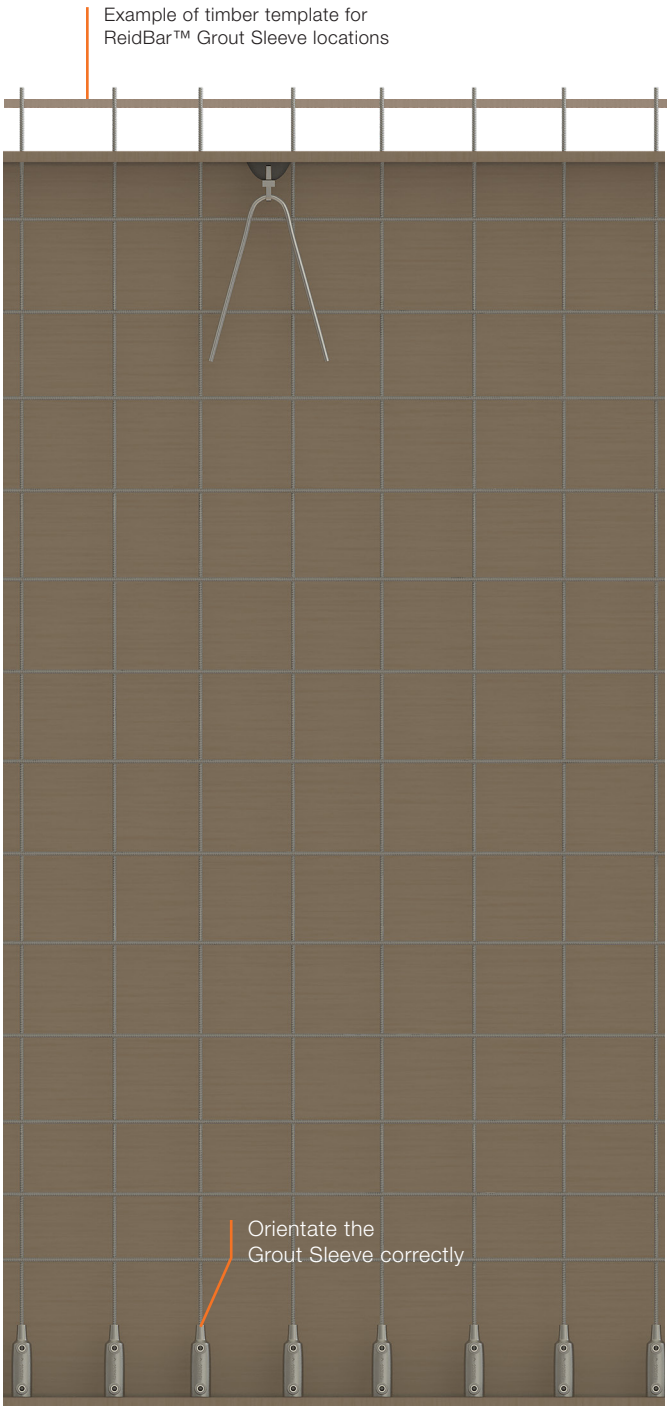
STEP 2 Set the Grout Sleeve Assembly into the Formwork

⚠ Ensure the Epcon™ C8 XTREM™ is allowed to cure for 24 hours before setting the assembly into the formwork.

Determine the surface (or side) that the grout ports are expected to come out from, and orientate the Grout Sleeve correctly such that the grout ports are facing the right direction. This is typically towards the near face of precast elements or on multiple sides of precast columns.

Step 2 Checklist:

- ☐ Check if the ReidBar™ has been installed correctly onto the Grout Sleeve.
- ☐ Check if the ports of the ReidBar™ Grout Sleeves are facing the right direction.



Installation Procedure

Installing ReidBar™ Grout Sleeve

STEP 3 Install Grout Sleeve installation hardware to the formwork.

Using Timber Discs

(ideal if penetrations through the formwork are undesirable)

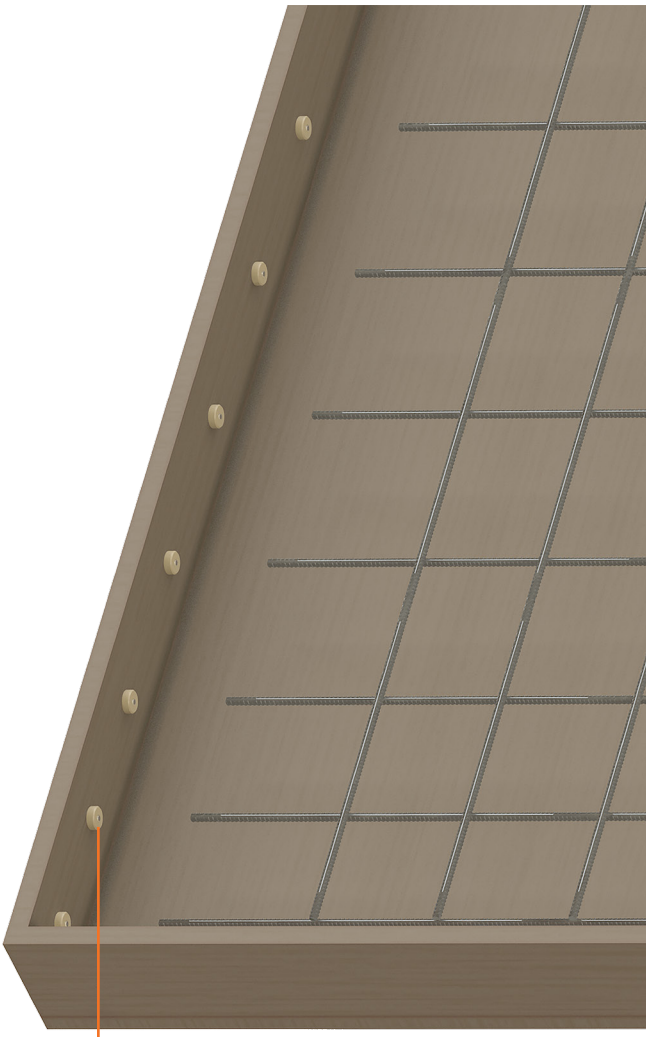
Find the marked centre locations of the ReidBar™ Grout Sleeves. Cut timber discs to suit the inside diameter of the corresponding ReidBar™ Grout Sleeve size. A circular hole saw is commonly used to create the timber discs.

Drill an appropriately sized hole and insert a screw through the middle of the timber disc. Tap the screw onto the marked locations and screw so that the timber disc is fixed firmly onto the formwork.

Afterwards, it is recommended to use two extra screws on the right and left sides of the timber disc to further fix it onto position.

Step 3 Checklist:

- ☐ Check if the set-up hardware is correctly placed and is firmly fixed to the formwork.



Timber discs screwed onto timber formwork

ReidBar Preparation

For accurate installation:

ReidBar shall be cut using band/abrasive saw, not to be hydraulically cropped. Refer to Step 1 Page 10 for details.

Hydraulically cropped ReidBar™

ReidBar™ properly cut using band/abrasive saw

Installation Procedure

Installing ReidBar™ Grout Sleeve

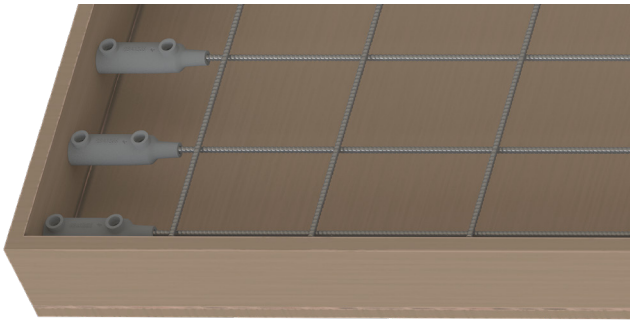
STEP 4 Install Grout Sleeves onto the installation hardware

Install the ReidBar™ Grout Sleeve assemblies onto the installation hardware. Install bar chairs underneath the Grout Sleeve continuation bar in close proximity to the Grout Sleeve.

Seal the bottom of the Grout Sleeve using a duct tape or similar means, to ensure that there is no concrete slurry seeping into the Grout Sleeve.

To further support the Grout Sleeve and maintain its rigidity upon reinforcement and concrete placing, more bar chairs may be required to support larger-sized ReidBar™ Grout Sleeve assemblies.

Install the timber or steel template to the top side of the precast panel to properly locate the protruding ReidBar™ Grout Sleeve starter bars. Ensure that the protruding starter bars are straight and perpendicular to the formwork.



Step 4 Checklist:

- ☐ Check if the Grout Sleeves are stable, perpendicular to the formwork and are sufficiently supported
- ☐ Check if the bottom of the Grout Sleeves are sufficiently sealed to stop concrete slurry ingress into the Grout Sleeves
- ☐ Check if the protruding starter bars are straight and perpendicular to the formwork. Ensure starter bars are correct length for intended site application

STEP 5 Prepare and connect port tubes to the grout ports

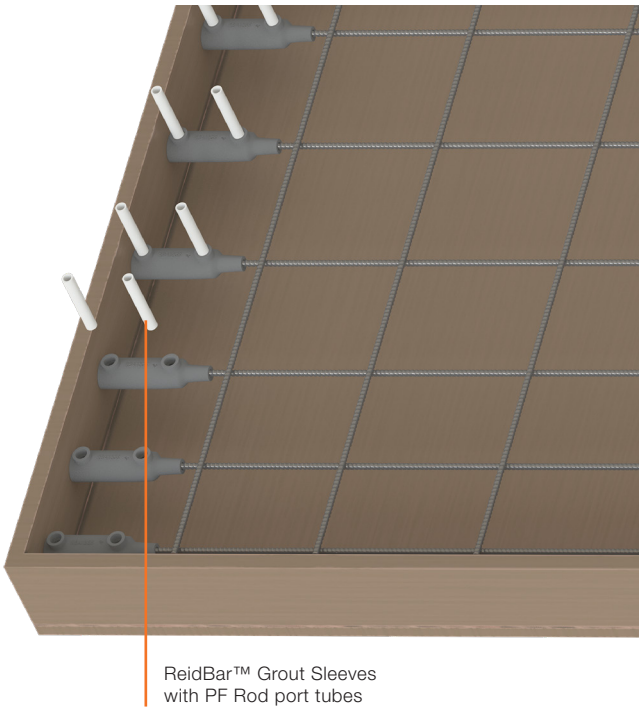
Prepare the port tubes such that they are neither too long nor too short, and then connect them to the ReidBar™ Grout Sleeves.

PVC tubes or plumbing hose can be used as port tubes. Connect port tubes into grout ports, and tape them to ensure that no concrete slurry seeps into the Grout Sleeve.

Label the port tubes where they come out of the precast unit – particularly when there is more than one layer of Grout Sleeves, such as in precast columns. This is to ensure that the grouting contractor onsite is aware of which are the inlet and outlet ports.

Step 5 Checklist:

- ☐ Prepare port tubes that are neither too long nor too short and connect them to the grout ports
- ☐ Label the port tubes so that it is clear which are the inlet and outlet ports
- ☐ Check if the grout ports are sufficiently sealed



ReidBar™ Grout Sleeves with PF Rod port tubes

Installation Procedure

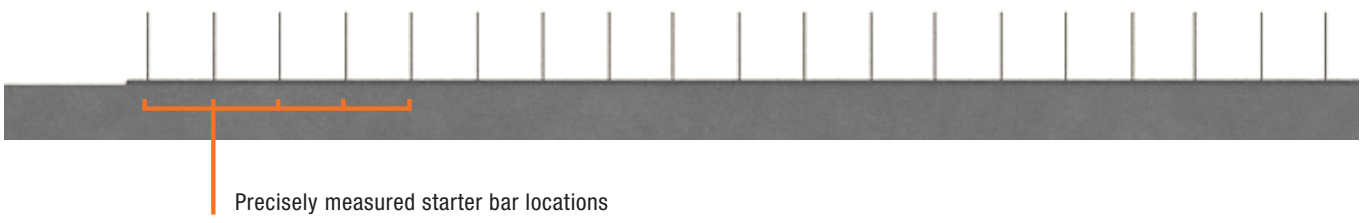
Installing ReidBar™ Grout Sleeve

STEP 6

Take good care during concrete placement and vibration to ensure that the Grout Sleeves are not displaced during the process.

For onsite contractors/builders:

For the setting of Grout Sleeve starter bars, coordinate with the precast concrete manufacturer and work based on their measurements and templates to ensure accuracy of starter bar locations.



Precisely measured starter bar locations

On-site Installation Procedure

During the installation planning process:

- [ ] Work with the structural engineer to refine the installation method

  Verify the installation method against the structural engineering specification to confirm:

  - [ ] If leveling shims and foam tape can be used and their location and size
  - [ ] Dry packing location and maximum coverage
  - [ ] Grout minimum coverage within the panel joint

- [ ] If the intended installation method deviates from the structural engineering specification, then approval shall be sought from the structural engineer.
- [ ] Allocate workers to the job who are deemed competent to carry out the task safely and to the structural engineering specifications.

Preparing for site:

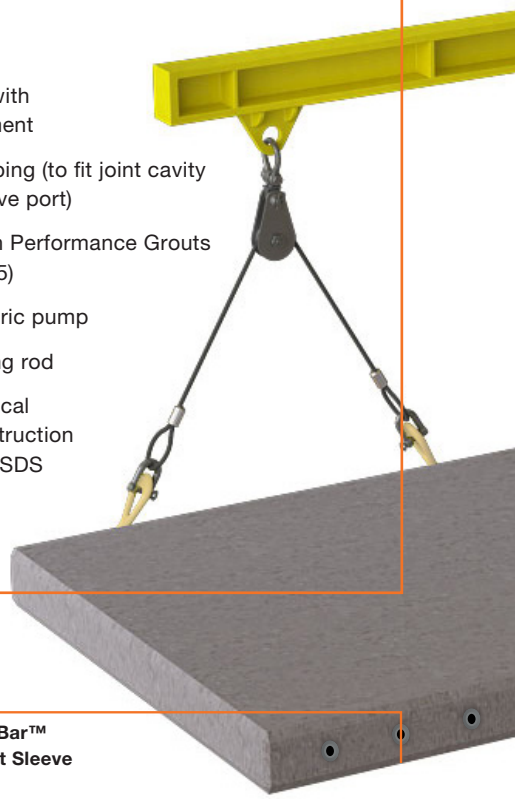
- [ ] Ensure workers are given the required tools, equipment and materials to carry out the work efficiently and accurately to the structural engineering specification.
- [ ] Ensure tools and equipment are in correct working order.
- [ ] Ensure materials are to the correct specifications and are within their use by date (where applicable).
- [ ] Ensure workers are familiar with the requirements of the job and are provided with necessary documentation to do the job accurately to the structural engineering specification.

Whilst on-site:

- [ ] Ensure workers are given access to the required tools, equipment and materials to carry out the work efficiently and accurately to the structural engineering specification.
- [ ] Ensure workers do not deviate from the intended installation method and structural engineering specification. If site constraints force a deviation, stop and seek approval from the structural engineer before proceeding.
- [ ] Ensure panel installation team complete installation step check-lists located on Page 23-30 of this document.

Tools and equipment:

- [ ] Appropriate Safety Equipment (PPE)
- [ ] Checklists (see end of this publication)
- [ ] Measuring tape
- [ ] Foam tape (as required)
- [ ] Leveling shims
- [ ] Dry packing grout (with 28 day compressive strength 10MPA in excess of the connected concrete elements - precast panels, floor or column)
- [ ] Measuring cup
- [ ] Clean water
- [ ] Electric mixer with paddle attachment
- [ ] Transparent tubing (to fit joint cavity and Grout Sleeve port)
- [ ] Selectable High Performance Grouts (Refer to Page 5)
- [ ] Manual or electric pump
- [ ] Foam or backing rod
- [ ] Relevant technical datasheets, instruction manuals and MSDS



ReidBar™ Grout Sleeve

Installation Procedure

On-site Installation

STEP 1 Inspect & prepare starter bars

Verify to the structural engineering specification:

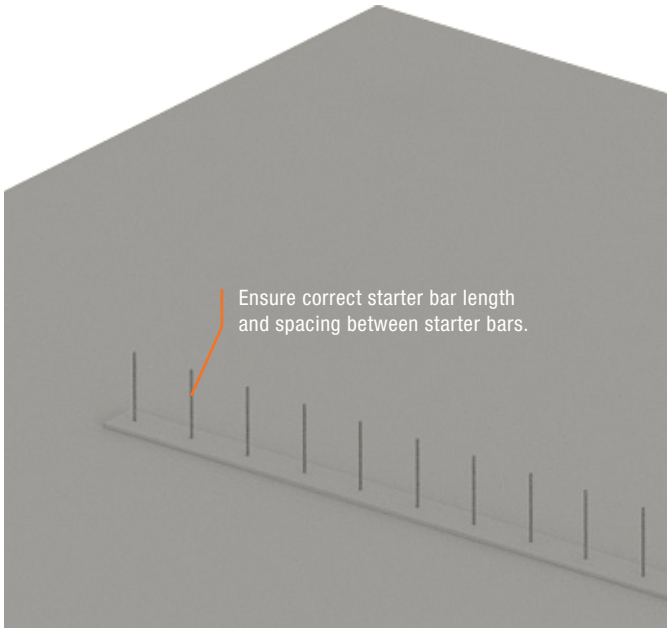
- ☐ The number of starter bars
- ☐ Starter bar size
- ☐ Starter bar position

Perform a visual inspection of the starter bars:

- ☐ Check for damage
- ☐ Check the ends show no signs of deformation and the bars are straight (if not, this will prevent the panel from sliding down)

Measure the length of the starter bars:

- ☐ Ensure the length of the bar (minus the packer height) is within tolerance of the required embedment depth (see ReidBar Grout Sleeve dimensions in the System Components Section (Page 4)).
- ⚠ Starter bars may be slightly chamfered to aid in insertion.
- ⚠ Do not place caps on the end of starter bars as an insertion aid.

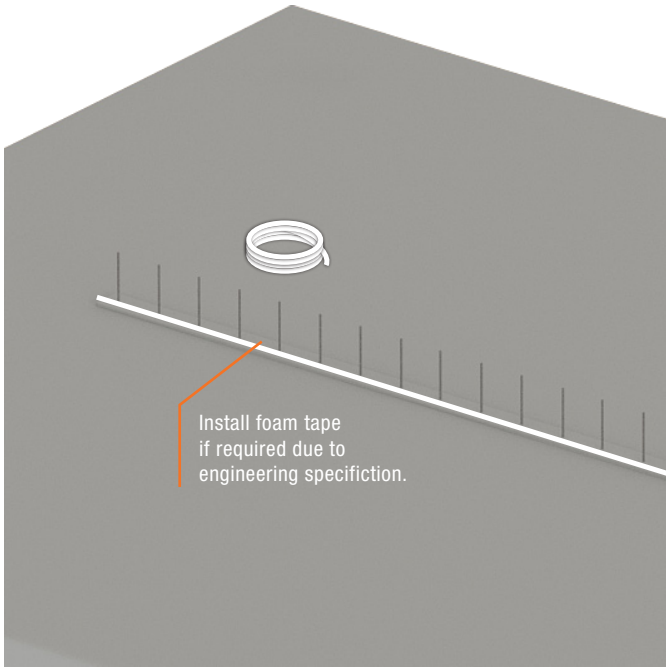


STEP 2 Install foam tape to base (as required)

- ☐ Verify the placement of the foam tape to the structural engineering specification. Only use foam tape where approved by the structural engineering specification as incorrect placement may affect the structural performance of the building.
- ⚠ Where foam tape is positioned on the only accessible faces, ensure transparent plastic inlet/outlet tubes are positioned within the foam tape, at each end of the panel and at intermediate points, to allow for adequate joint flooding and visual inspection.

STEP 3 Position the panel over the base (via crane)

- ⚠ Never work under a moving panel.



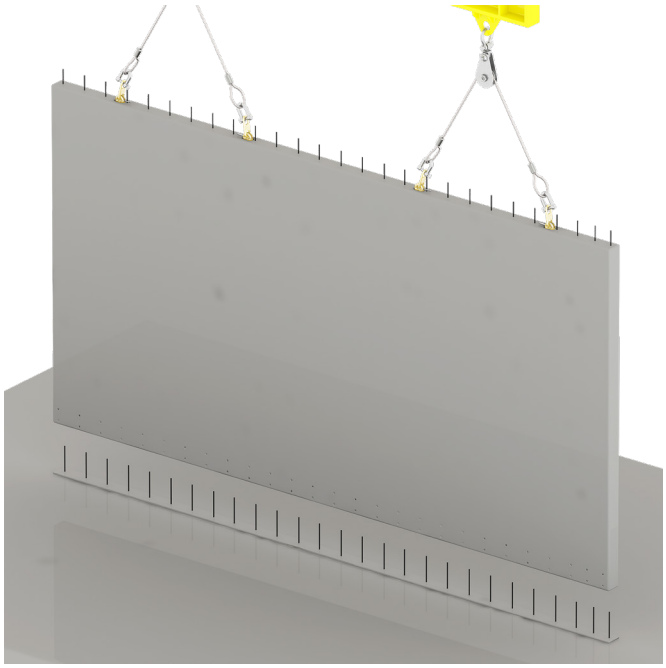
Installation Procedure

On-site Installation

STEP 4 Lower the panel and whilst supported inspect the grout sleeve cavity

Inspect the ReidBar Grout Sleeve cavities:

- ☐ Verify the number of cavities.
- ☐ Check that all cavities are free of obstructions
- ⚠ Verify the cavity depths match the ReidBar Grout Sleeve dimensional starter bar length measured in Step 1



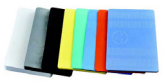
STEP 5 Lower the panel over the starter bars

This may require raising and lowering the panel several times if the starter bars are getting caught or are misaligned. Adjust where required.

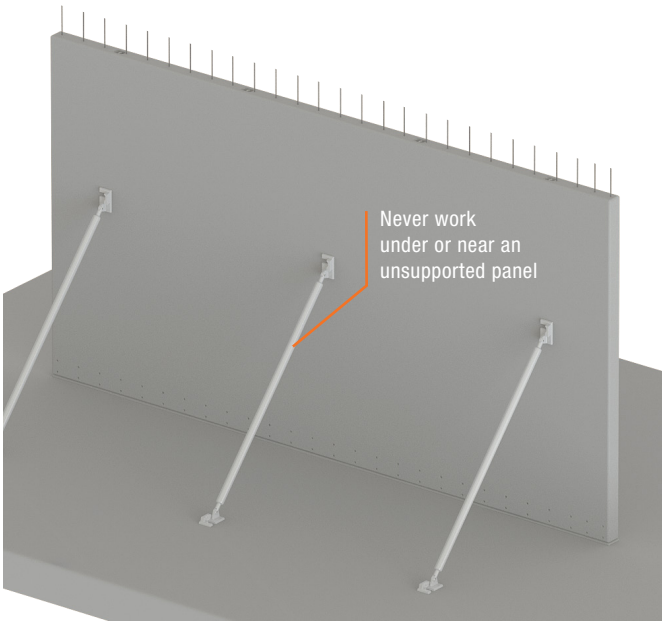
- ⚠ Never work under an unsupported panel.

STEP 6 Level the panel with Leveling Shims (if required)

Verify the placement of the leveling shims to the structural engineering specification.



- ☐ This may require raising and lowering the panel several times to achieve. Adjust shims heights where required.
- ⚠ Never work under a moving or unsupported panel.
- ⚠ Levelling shims only to be used in accordance with NZ Safe Work with Precast Concrete Good Practice Guidelines.
- ⚠ Where applicable, use plastic load rated shims. Never use metal shims.
- ⚠ Only use shims where approved by the structural engineering specification. Adhere to locations specified.



STEP 7 After the panel is fully lowered onto the concrete base, prop the panel to secure

- ⚠ Never work under or near an unsupported panel

Installation Procedure

On-site Installation

STEP 8

Where dry packing is specified, dry pack the joint cavity with an approved dry packing grout.

Prepare the surfaces according to the manufacturer's instructions.

Mix grout to dry pack consistency according to the manufacturer's instructions.

- ☐ Verify the correct water volume is used.
- ☐ Verify the consistency of the grout is homogenous.
- ⚠ Ensure all instructions are complied to (refer to the manufacturer's instructions).

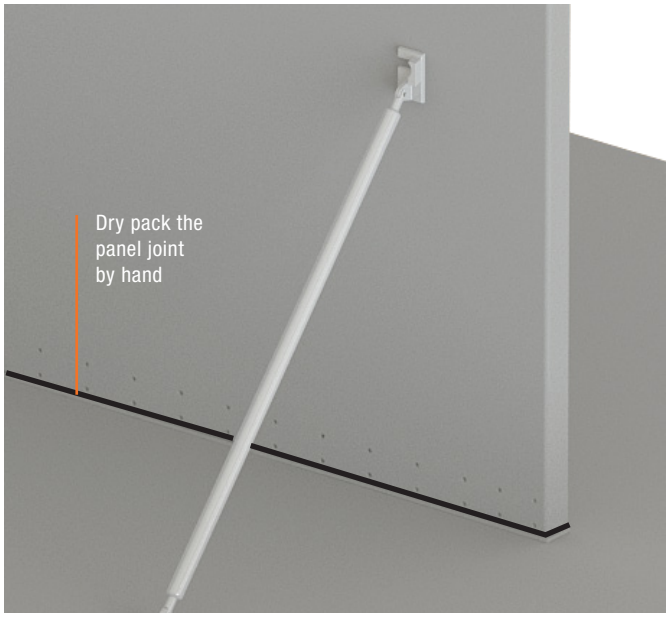
Dry pack all sides of the panel joint by hand in the timeframe shown on the instructions as indicated by the structural engineering detailing.

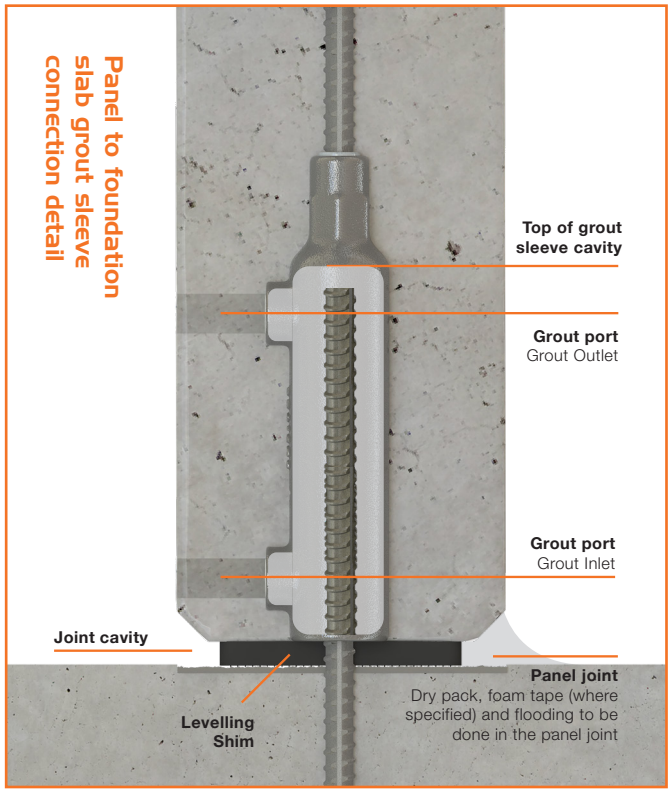
Ensure transparent plastic inlet/outlet tubes are positioned within the dry packed joint, at each end of the panel and at intermediate points, to allow for adequate joint flooding and visual inspection.

- ⚠ Ensure the exposed ends of the inlet and outlet tubes are long enough to create a head of grout just above the panel joint to ensure each grout sleeve is sealed at the flooding stage.
- ☐ Verify the position of the dry packing to the structural engineering specification.
- ☐ Verify the grout inlet and outlet tubes are present and clear of grout.
- ☐ Note the time of completion to ensure recommended setting times are observed (refer to the manufacturer's instructions).

Allow the dry packed grout to set according to the manufacturer's instructions before proceeding.

- ⚠ This step is intended to seal the joint cavity and provide support to the pressure exerted by grouting and may be done in conjunction with the use of foam tape (where specified).





Installation Procedure

On-site Installation

STEP 9 Flood the joint cavity with approved structural grout (Refer to page 5 for details)

- ☐ Verify setting time for the dry packing (where specified) has been met.

Mix Selected High Performance Grout (Refer to Page 5) to flowable consistency according to the instructions provided on the packaging.

- ☐ Verify the correct water volume is used.
- ☐ Verify the consistency of the grout is homogenous.
- ⚠ Ensure all instructions are complied with. (refer to instructions provided on packaging).

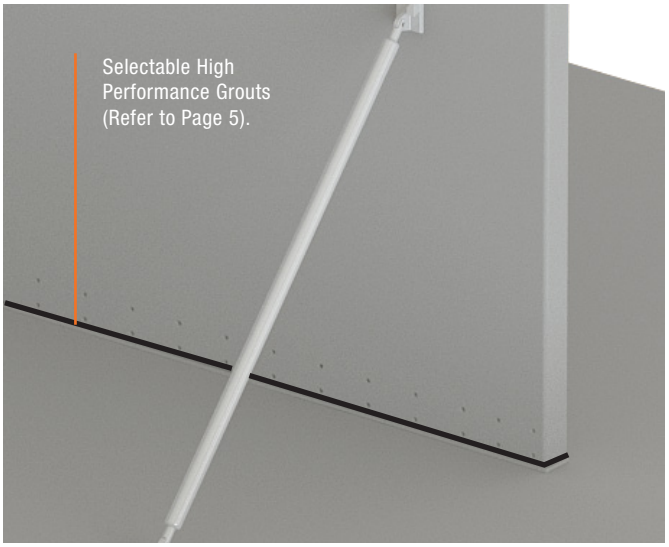
Working from one end of the panel to the other, and with a pump, flood the panel joint in the timeframe shown on the manufacturer's instructions. Flood until a head of grout is observed above the level of the panel joint for each inlet/ outlet tube positioned within the dry packed joint.

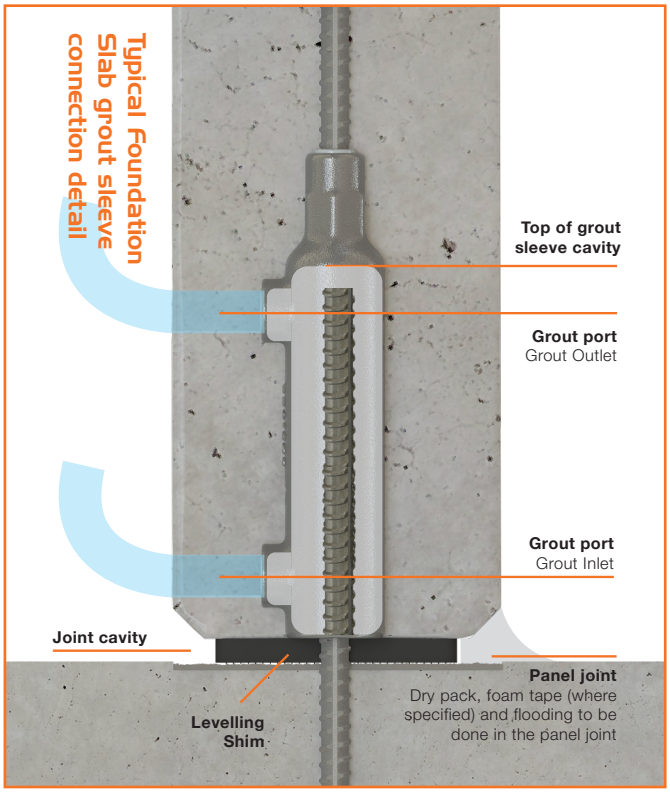
Working from one side of the panel to the other, plug the tubes.

- ☐ Verify the grout inlet and outlet tubes are filled above the level of the panel joint.
- ☐ Note the time and temperature at completion to ensure recommended setting times are observed (refer to the product instructions provided).

Allow the flooded grout to set according to the product instructions provided before proceeding. For temperatures below 5 degrees Celsius, allow for longer setting times (refer to the product instructions provided)

- ⚠ This step is intended to seal the joint cavity and also seal the base of each grout sleeve so they can be individually grouted.
- ⚠ Working from one side of the panel to the other ensures that voids are not formed during the flooding process.
- ⚠ Flooding may be done with either a manual or electric pump.
- ⚠ Foam or backing rod can be used to plug tubes.





STEP 10 Prepare the Grout Sleeves for grouting

- ☐ Verify setting time for the flooded grout has been met.

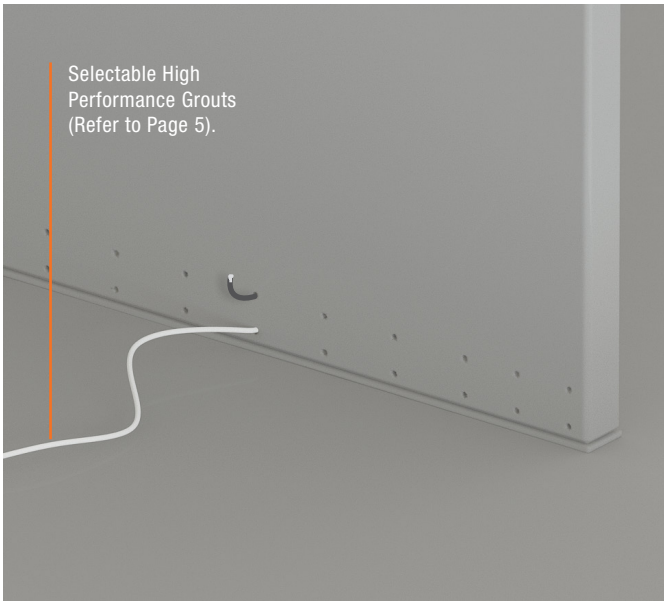
Attach a transparent plastic tube to each of the upper grout sleeve ports.

- ⚠ Ensure the end of the transparent tubes are pointing upwards and are long enough to create a head of grout just above the level of the top of the grout sleeve cavity to ensure each grout sleeve is fully filled with grout.

Installation Procedure

On-site Installation

STEP II Grout the grout sleeve cavity with Selected High Performance Grout (Refer to Page 5).



Mix Selected High Performance Grout to flowable consistency (Refer to Grout Specification Table on Page 5).

- ☐ Verify the correct water volume is used.
- ☐ Verify the consistency of the grout is homogenous.
- ⚠ Ensure all instructions are complied to (refer to the manufacturer's instructions).
- ⚠ Use the entire contents of the Selected Grout bag each time grout is required.

Working from one side of the panel, grout each grout sleeve individually via the grout inlet (lower port) within the timeframe shown on the manufacturer's instructions.

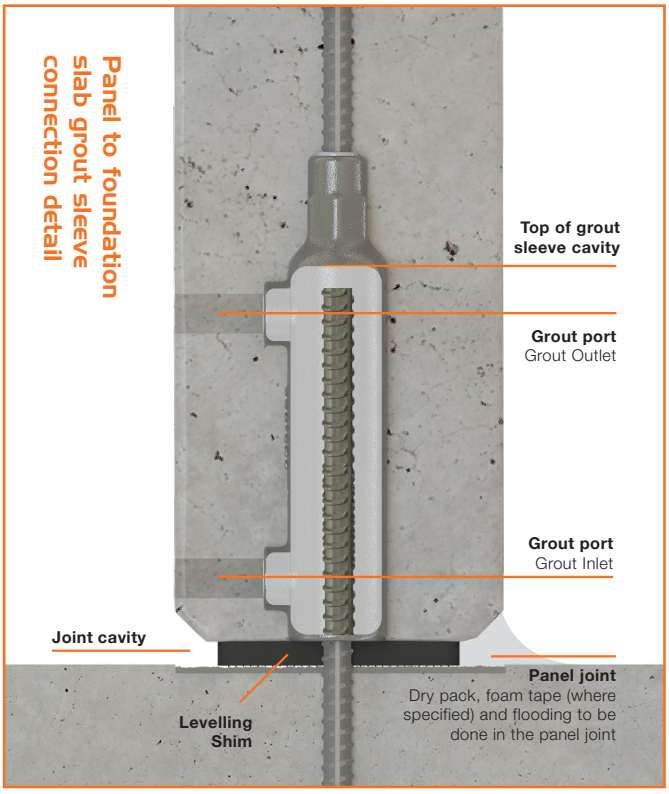
Grout until a head of grout is observed above the level of the top of the grout sleeve cavity in each outlet. Plug the grout inlet immediately after removing the pump, then plug the grout outlet tube.

Continue across the panel until all grout sleeves are grouted.

- ☐ Verify the grout inlet and outlet tubes are filled above the level of the top of the grout sleeve cavity.
- ☐ Note the time and temperature at completion to ensure recommended setting times are observed (refer to the manufacturer's instructions).

Allow the flooded grout to set according to the manufacturer's instructions. For temperatures below 5 degrees Celsius, allow for longer setting times (refer to the manufacturer's instructions).

- ⚠ Working from the grout inlet (the lower Grout Sleeve port) ensures that voids are not formed during the grouting process.
- ⚠ Foam or backing rod can be used to plug the ports.
- ⚠ During this step, the grout path to some, or all Grout Sleeves may not have been sealed if under-flooded previously, thus multiple grouting of some/all grout sleeves may be required. If this is the case work from one side of the panel to the other to avoid the formation of voids.
- ⚠ Grouting may be done with either a manual or electric pump.
- ⚠ Once fully set, plugs and tubes can be removed and the surfaces treated as required.



Grout Sleeve

Installation Checklist

This checklist is to be used where the ReidBar™ Grout Sleeve System is being cast into a precast concrete panel. It is to be used in conjunction with the ReidBar™ Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the structural engineer at any time.

A.1 Project Details

Project	
Project address	
Building/Level	

A.2 Panel Identification

	Panel 1	Panel 2	Panel 3
Panel name/number/ID			

A.3 Panel Manufacturer Details

	Panel 1	Panel 2	Panel 3
Manufacture date			
Project Lead			
Quality Inspector			

A.4 Pre-Pour Inspection

	Panel 1		Panel 2		Panel 3	
Continuation bar template check to structural engineering drawings	OK	Not OK	OK	Not OK	OK	Not OK
Position	☐	☐	☐	☐	☐	☐
Size	☐	☐	☐	☐	☐	☐
Number of continuation bars	☐	☐	☐	☐	☐	☐
Grout Sleeve Assembly check	OK	Not OK	OK	Not OK	OK	Not OK
Reidbar installed per the instructions	☐	☐	☐	☐	☐	☐
Assembly cured for a minimum 24 hours	☐	☐	☐	☐	☐	☐
Grout Sleeve Installation check	OK	Not OK	OK	Not OK	OK	Not OK
Setup hardware positioned correctly & firmly fixed	☐	☐	☐	☐	☐	☐
Grout sleeve grout ports oriented correctly	☐	☐	☐	☐	☐	☐
Grout sleeves are stable & supported	☐	☐	☐	☐	☐	☐
Grout sleeves are perpendicular to the formwork	☐	☐	☐	☐	☐	☐
Base of the grout sleeves are sealed	☐	☐	☐	☐	☐	☐
Starter bars are straight and perpendicular to the formwork	☐	☐	☐	☐	☐	☐
Port tubes inserted into each grout port	☐	☐	☐	☐	☐	☐
Grout ports are labelled	☐	☐	☐	☐	☐	☐
Grout ports are sealed	☐	☐	☐	☐	☐	☐

Continued >

Grout Sleeve

Installation Checklist

This checklist is to be used where the ReidBar™ Grout Sleeve System is being cast into a precast concrete panel. It is to be used in conjunction with the ReidBar™ Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the Structural Engineer at any time.

A.5 Pre-Storage Inspection

	Panel 1		Panel 2		Panel 3	
	OK	Not OK	OK	Not OK	OK	Not OK
Grout sleeve cavities free of obstructions	☐	☐	☐	☐	☐	☐
Grout ports free of obstructions	☐	☐	☐	☐	☐	☐

A.6 Grout Sleeve Installation Sign-Off

All items have been marked by the Project Lead and checked by the Quality Inspector

	Panel 1	Panel 2	Panel 3
Project Lead (sign)			
Quality Inspector (sign)			
Approval date			

Any deviations have been accepted by the Structural Engineer for the project

Deviation

	Panel 1	Panel 2	Panel 3
Structural Engineer			
Approval date			

Notes

Precast Concrete Panel

Installation Checklist

This checklist is to be used where the ReidBar Grout Sleeve System has been cast into a precast concrete panel. It is to be used in conjunction with the ReidBar Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the structural engineer at any time.

1.1 Project Details

Project	
Project address	
Building/Level	

1.2 Panel Identification

	Panel 1	Panel 2	Panel 3
Panel name/number/ID			

1.3 Panel Installation Details

Panel Installation Contractor

	Panel 1	Panel 2	Panel 3
Installation date			
Lead Installer From the panel installation contractor			
Quality Inspector			

1.4 Starter Bar Inspection

	Panel 1			Panel 2			Panel 3		
Number of starter bars [a]									
	OK		Not OK	OK		Not OK	OK		Not OK
Number of starter bars check structural engineering drawings	☐		☐	☐		☐	☐		☐
Reinforcing Bar size (circle)	Bar Size	Embedment Depth (Mm)	Tolerance (Mm)	Bar Size	Embedment Depth (Mm)	Tolerance (Mm)	Bar Size	Embedment Depth (Mm)	Tolerance (Mm)
	12mm	130	± 20	12mm	130	± 20	12mm	130	± 20
	16mm	170	± 20	16mm	170	± 20	16mm	170	± 20
	20mm	204	± 20	20mm	204	± 20	20mm	204	± 20
	25mm	254	± 20	25mm	254	± 20	25mm	254	± 20
	32mm	300	± 20	32mm	300	± 20	32mm	300	± 20
Reinforcing Bar length (mm) minus packer height [b]									
Confirm starter bar length is within +/- 20mm tolerance	OK		Not OK	OK		Not OK	OK		Not OK
Reinforcing Bar size check to structural engineering drawings	☐		☐	☐		☐	☐		☐
Reinforcing Bar length check	☐		☐	☐		☐	☐		☐
Starter bar checks	OK		Not OK	OK		Not OK	OK		Not OK
Position to structural engineering drawings	☐		☐	☐		☐	☐		☐
No bar damage	☐		☐	☐		☐	☐		☐
Bar straightness	☐		☐	☐		☐	☐		☐
Bar end condition	☐		☐	☐		☐	☐		☐
Foam tape position to structural engineering drawings	☐		☐	☐		☐	☐		☐
Confirm Starter Bar Grade 500E	☐		☐	☐		☐	☐		☐

Continued >

Precast Concrete Panel

Installation Checklist

This checklist is to be used where the ReidBar Grout Sleeve System has been cast into a precast concrete panel. It is to be used in conjunction with the ReidBar Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation.The completed document may be requested by the Structural Engineer at any time.

1.5 Panel Grout Sleeve Cavity Inspection

	Panel 1		Panel 2		Panel 3	
	OK	Not OK	OK	Not OK	OK	Not OK
Number of cavities compare to [a]	☐	☐	☐	☐	☐	☐
Cavity depth (mm)	150 / 190 / 224 / 274 / 320		150 / 190 / 224 / 274 / 320		150 / 190 / 224 / 274 / 320	
	OK	Not OK	OK	Not OK	OK	Not OK
Cavity depth check	☐	☐	☐	☐	☐	☐
Cavities free of obstructions	☐	☐	☐	☐	☐	☐

1.6 Leveling Shim Position

	Panel 1		Panel 2		Panel 3	
	OK	Not OK	OK	Not OK	OK	Not OK
Shim position	☐	☐	☐	☐	☐	☐
Leveling Shims used	☐	☐	☐	☐	☐	☐

1.7 Panel Installation Sign-Off

All items have been marked by the Project Lead and checked by the Quality Inspector

	Panel 1	Panel 2	Panel 3
Lead Installer (sign)			
Quality Inspector (sign)			
Approval date			

Any deviations have been accepted by the Structural Engineer for the project

Deviation

	Panel 1	Panel 2	Panel 3
Structural Engineer			
Approval date			

Proceed to Grouting (refer to ReidBar Grout Sleeves System Installation Instructions and Checklist)

Dry Packing

Installation Checklist

This checklist is to be used where the ReidBar Grout Sleeve System has been cast into a precast concrete panel. It is to be used in conjunction with the ReidBar Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the Structural Engineer at any time.

2.1 Project Details

Project	
Project address	
Building/Level	

2.2 Panel Identification

	Panel 1	Panel 2	Panel 3
Panel name/number/ID			

2.3 Dry Packing Details

Grouting Contractor	

	Panel 1	Panel 2	Panel 3
Grouting date			
Lead Grouter From the grouting contractor			
Quality Inspector			

2.4 Start Up Checks

Equipment check	OK	Not OK
Mixing bucket and paddle clean	☐	☐
Mixing drill in good condition	☐	☐

	Panel 1		Panel 2		Panel 3	
Panel Setup	OK	Not OK	OK	Not OK	OK	Not OK
Shim position under panel to structural engineering drawings	☐	☐	☐	☐	☐	☐
Plastic (not metal) shims used	☐	☐	☐	☐	☐	☐
Foam tape position to structural engineering drawings	☐	☐	☐	☐	☐	☐

Continued >

Notes

Dry Packing

Installation Checklist

This checklist is to be used where the ReidBar Grout Sleeve System has been cast into a precast concrete panel. It is to be used in conjunction with the ReidBar Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the structural engineer at any time.

2.5 Grout Mixing

Grout used?	Expiry date check		Confirm correct water volume by Quality Inspector		Confirm flowable homogenous mix by Quality Inspector	
	OK	Not OK	OK	Not OK	OK	Not OK
Bag 1	☐	☐	☐	☐	☐	☐
Bag 2	☐	☐	☐	☐	☐	☐
Bag 3	☐	☐	☐	☐	☐	☐
Bag 4	☐	☐	☐	☐	☐	☐
Bag 5	☐	☐	☐	☐	☐	☐
Bag 6	☐	☐	☐	☐	☐	☐
Bag 7	☐	☐	☐	☐	☐	☐
Bag 8	☐	☐	☐	☐	☐	☐

2.6 Dry Packing Inspection

	Panel 1		Panel 2		Panel 3	
Dry packing checks	OK	Not OK	OK	Not OK	OK	Not OK
Dry packing position to structural engineering drawings	☐	☐	☐	☐	☐	☐
Grout inlet tube present & clear of grout	☐	☐	☐	☐	☐	☐
Grout outlet tube present & clear of grout	☐	☐	☐	☐	☐	☐

2.7 Dry Packing Sign-Off

All items have been marked by the Project Lead and checked by the Quality Inspector

	Panel 1	Panel 2	Panel 3
Lead Grouter (sign)			
Time of completion			
Quality Inspector (sign)			
Approval date			

Any deviations have been accepted by the Structural Engineer for the project

Deviation

	Panel 1	Panel 2	Panel 3
Structural Engineer			
Approval date			

Proceed to Flooding (refer to ReidBar Grout Sleeves System Installation Instructions and Checklist)

Panel Flooding

Installation Checklist

This checklist is to be used where the ReidBar Grout Sleeve System has been cast into a precast concrete panel. It is to be used in conjunction with the ReidBar Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the structural engineer at any time.

3.1 Project Details

Project	
Project address	
Building/Level	

3.2 Panel Identification

	Panel 1	Panel 2	Panel 3
Panel name/number/ID			

3.3 Flooding Details

Grouting Contractor	

	Panel 1	Panel 2	Panel 3
Grouting date			
Lead Grouter From the grouting contractor			
Quality Inspector			

3.4 Start Up Checks

Dry Packing	OK	Not OK
Setting time met	☐	☐

3.5 Grout Mixing

	Panel 1		Panel 2		Panel 3	
Bag 1	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐
Bag 2	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mixby quality inspector	☐	☐	☐	☐	☐	☐
Bag 3	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐

Continued >

Panel Flooding

Installation Checklist

This checklist is to be used where the ReidBar Grout Sleeve System has been cast into a precast concrete panel. It is to be used in conjunction with the ReidBar Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the Structural Engineer at any time.

3.5 Grout Mixing

	Panel 1		Panel 2		Panel 3	
Bag 4	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐
Bag 5	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mixby quality inspector"	☐	☐	☐	☐	☐	☐
Bag 6	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐

3.6 Flooding Inspection

	Panel 1		Panel 2		Panel 3	
Flooding checks	OK	Not OK	OK	Not OK	OK	Not OK
Dry packing position to structural engineering drawings	☐	☐	☐	☐	☐	☐
Head of grout observed from grout outlets	☐	☐	☐	☐	☐	☐

3.7 Flooding Sign-Off

All items have been marked by the Project Lead and checked by the Quality Inspector

	Panel 1	Panel 2	Panel 3
Lead Grouter (sign)			
Time of completion			
Quality Inspector (sign)			
Approval date			

Any deviations have been accepted by the Structural Engineer for the project

Deviation

	Panel 1	Panel 2	Panel 3
Structural Engineer			
Approval date			

Proceed to Grouting (refer to ReidBar Grout Sleeves System Installation Instructions and Checklist)

Grouting

Installation Checklist

This checklist is to be used where the ReidBar Grout Sleeve System has been cast into a precast concrete panel. It is to be used in conjunction with the ReidBar Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the Structural Engineer at any time.

4.1 Project Details

Project	
Project address	
Building/Level	

4.2 Panel Identification

	Panel 1	Panel 2	Panel 3
Panel name/number/ID			

4.3 Grouting Details

Grouting Contractor	

	Panel 1	Panel 2	Panel 3
Grouting date			
Lead Grouter From the grouting contractor			
Quality Inspector			

4.4 Start Up Checks

Flooding	OK	Not OK
Setting time met	☐	☐

4.5 Grout Mixing

	Panel 1		Panel 2		Panel 3	
Bag 1	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐
Bag 2	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐
Bag 3	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐

Continued >

Grouting

Installation Checklist

This checklist is to be used where the ReidBar Grout Sleeve System has been cast into a precast concrete panel. It is to be used in conjunction with the ReidBar Grout Sleeves System Installation Instructions. Items marked 'Not OK' are to be rectified by the contractor or referred to the structural engineer of the project for approval to proceed. Retain the completed document as a record of the installation. The completed document may be requested by the Structural Engineer at any time.

4.5 Grout Mixing

	Panel 1		Panel 2		Panel 3	
Bag 4	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐
Bag 5	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐
Bag 6	OK	Not OK	OK	Not OK	OK	Not OK
Selected Grout Used (Refer to Page 5 for Approved Options)	☐	☐	☐	☐	☐	☐
Confirm correct water volume by quality inspector	☐	☐	☐	☐	☐	☐
Confirm flowable homogenous mix by quality inspector	☐	☐	☐	☐	☐	☐

4.6 Grouting Inspection

	Panel 1		Panel 2		Panel 3	
Grouting checks	OK	Not OK	OK	Not OK	OK	Not OK
Dry packing position to structural engineering drawings	☐	☐	☐	☐	☐	☐
Head of grout observed from grout outlets	☐	☐	☐	☐	☐	☐
Number of grout sleeves grouted (write number)						

4.7 Grouting Sign-Off

All items have been marked by the Project Lead and checked by the Quality Inspector

	Panel 1	Panel 2	Panel 3
Lead Grouter (sign)			
Time of completion			
Quality Inspector (sign)			
Approval date			

Any deviations have been accepted by the Structural Engineer for the project

Deviation

	Panel 1	Panel 2	Panel 3
Structural Engineer			
Approval date			

Notes

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